

**Abstract****High Strength Aluminium - Based Alloy and the Article Made Thereof**

The invention relates to high strength aluminium - based alloy of Al-Zn-Mg-Cu system and the articles made thereof. The present alloy is characterized by the combination of improved properties: flowability, technological plasticity, fracture toughness while preserving high levels of strength properties.

Said alloy comprises (mass.%):

Zn 6.35-8.0      Si 0.01-0.2

Mg 0.5-2.5      Fe 0.06-0.25

Cu 0.8-1.3      Zr 0.07-0.2

Cr 0.001-0.05    Ti 0.03-0.1

Mn 0.001-0.1    Be 0.0001-0.05

and at least one element from the group of alkali-earth metals:

K 0.0001-0.01

Na 0.0001-0.01

Ca 0.0001-0.01

Al-balance

the sum  $Zr+2Ti \leq 0.3\%$ , and the ratio  $Si:Be \geq 2$ .

The invented alloy is suitable for producing large-sized, extruded, rolled and forged semiproduct articles used for manufacture of loaded members of aircraft, cars and other machinery.